CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

Public transportation can be define as the occupancy vehicle services designed to transport customers on local and regional routes (Vuchic, V. R) [14]. It has been recognized as a potential way to reduce air pollution, improving mobility, and also lessen the traffic congestion. The designing of bus transit network is very crucial in order to make it more efficient especially in the urban areas. The transportation that can be included is busses, rail, taxis, van, or others that give the service to the public to make any of the movement from one place to another place easier. All this type of transportation are served to the public are either being paid or free as the fee based on the regulations that have been made in every country. To meet the satisfaction of the public, all these type of transportation must be operate effectively in order to get the trust from the users. To achieve that, the network of the transportation must be carefully planned.

The situation is same goes to the Malaysia. Lately, Malaysia has develop rapidly impact from the good world competition. Along with this, the public transport in Malaysia also has develop. Providing the good service, all the public transportation in Malaysia promise the user with its comfort with the reasonable price. The mostly used public transportation in Malaysia can be said is busses. From this situation, many company taking the risk to involve in this area. One of the most successful company is the rapid busses.

Rapid Bus Sdn Bhd are establish on January 1, 2013 operate under its parent company, Prasarana Malaysia Berhad (Prasarana Rapid Bus) [10]. The buses currently operates is RapidKL, RapidPenang and RapidKuantan which each of them take the name of the place operate to make the buses name. RapidKL are operates around the Klang Valley and also Selangor. As for RapidPenang, it operates around the island of Penang and Butterworth and for RapidKuantan operate around the state capital of Pahang, mostly in kuantan. As the business get the good feedback from the public, Rapid Bus receives support from the Government.

The significant of this public transport is it can reduce the primary transportation which is car to avoid traffic jam. Based on the statistic from PDRM, there are massive increase in the uses of personal car. Estimated, there are about 40% increase in the vehicle registration in Malaysia in year 2002. The result from this, there are a lot of problem arise, include the traffic jam, insufficient parking space and also air pollution problem. With the come of the RapidKuantan, it expected to solve all this problem.

For the Rapidkuantan, the operation of the busses just begun around December 1 2012 (Prasarana Rapid Bus) [10]. As the new comer, there are a lot of weakness can improve. The most popular issues is about the time punctuality which are due to the routing problem, estimation that are not accurate, different time taken for each point, can lead to the inefficient service. In this research, it is purpose the way to improve indirectly to solve this problem. In order to develop new public transportation solutions, it can be said it is almost impossible to use direct experimentation. Thus, to solve this problem, we adopt the computer simulation as a solution for analysis and planning the new public transportation systems.

A simulation of a system is the operation of a model of the system. The model can be reconfigured and experimented with; usually, this is impossible, too expensive or impractical to do in the system it represents (Maria, A. 1997) [7]. Simulation is a very crucial in the problem-solving methodology in the real-world problems. With this simulation, this kind of problem related to the public transport can be solve without applying it before the modelling is completely

works. From this, we will implement the computer simulation as a solution for planning and analysing this Rapidkuantan systems.

1.2 PROBLEM STATEMENT

There are a few problem faced by the user of this bus. Firstly is about the about time taken for the bus to reach certain point. The problem may occur due to the location for the bus to stop seem not too strategic. This will increase the queuing time for the passenger. At the certain stopping point, sometimes there is no passenger waiting there. Then is about the capacity. There are certain time that the bus will exceed the allowed number of passengers. This situation is usually happen during the peak hour. There are also different in the total number of passengers when using the bus during the weekdays and also during the weekend. The correct sequent and the number of busses depart from the terminal also do not schedule correctly resulting in the bunching of the buses at certain time.

1.3 OBJECTIVE OF THE STUDY

i. To enhance the Rapidkuantan system by reducing the total time taken for the bus.

ii. To develop the simulation model to enhance the Rapidkuantan service system.

iii. To create a new network system road using the data analysis for each bus station point.

1.4 METHODOLOGY

From the problem that have been arise, the method that have been propose is through the simulation model.

Simulation model is the imitation of the operation of a real-world process or